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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/866,092	05/23/2001	Mark Thomas McCormack	6136/54242 (25916-217)	5484

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EXAMINER

LEE, EUGENE

ART UNIT PAPER NUMBER

2815

DATE MAILED: 04/22/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

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Office Action Summary	Application N . 09/866,092	Applicant(s) MCCORMACK ET AL.	
	Examiner Eugene Lee	Art Unit 2815	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 December 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 17-34 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 17-34 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 12/22/03 has been entered.

Claim Objections

2. Claim 17 is objected to because of the following informalities: in line 7 of claim 17, the limitation "first substrate" should be "first substrate surface." Appropriate correction is required.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over McClanahan et al. 5,396,397 in view of Enomoto 6,320,140 B1. McClanahan discloses (see, for example, FIG. 1) a multilayer circuit structure (multi-layer printed circuit board) comprising layer (circuit board substrate) L6, metallization (integrated electronic component) 17, layer (first dielectric layer) L5, metallic layer 17, vias fills (via) 19, layer (second dielectric layer) L4 and via fills (opening) 19.

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McClanahan does not disclose an adhesive securing said first integrated electronic component and said first substrate. However, Enomoto discloses (see, for example, FIG. 2) a multilayer printed wiring board comprising conductor circuits 3b wherein the conductor circuits are adhered to an underlying insulating substrate 2b by an adhesive layer 4a. It would have been obvious to one of ordinary skill in the art at the time of invention to include the adhesive layer in order to secure the electronic component to the circuit board substrate.

Regarding the metallization being construed as an integrated electronic component, see column 4, lines 48-53, wherein McClanahan states that the metallizations may be electronic components, i.e. resistors, inductors, capacitors.

5. Claims 17 thru 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Swarup 6,170,154 B1 in view of Enomoto 6,320,140 B1. Swarup discloses (see, for example, FIG. 6B) a multilayer printed circuit structure (multi-layer printed circuit board) comprising first substrate (circuit board substrate) 192, capacitor (first integrated electronic component) 38, second substrate (first dielectric layer) 204, dielectric bridge (metallic layer) 174, via hole (at least one via and opening) 160, and third substrate (second dielectric layer) 208. McClanahan does not disclose an adhesive securing said first integrated electronic component and said first substrate. However, Enomoto discloses (see, for example, FIG. 2) a multilayer printed wiring board comprising conductor circuits 3b wherein the conductor circuits are adhered to an underlying insulating substrate 2b by an adhesive layer 4a. It would have been obvious to one of ordinary skill in the art at the time of invention to include the adhesive layer in order to secure electronic component to the circuit board substrate.

Regarding claim 27, see column 11, lines 1-5.

Regarding claim 30, see, for example, column 12, lines 18-21.

Response to Arguments

6. Applicant's arguments with respect to claims 17-34 have been considered but are moot in view of the new ground(s) of rejection.

INFORMATION ON HOW TO CONTACT THE USPTO

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eugene Lee whose telephone number is 571-272-1733. The examiner can normally be reached on M-F 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tom Thomas can be reached on 571-272-1664. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

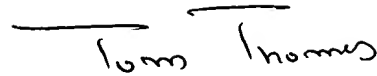
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Eugene Lee

April 16, 2004

A handwritten signature in black ink that reads "Tom Thomas". The signature is written in a cursive style with a horizontal line above the first name.

TOM THOMAS
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800